

**Montana Board of Oil and Gas Conservation
Environmental Assessment**

Operator: Fidelity Exploration & Production Company

Well Name/Number: Bergstedt 35-26H

Location: SE SW Section 35 T21N R57E

County: Richland, **MT;** **Field (or Wildcat)** W/C

Air Quality

(possible concerns)

Long drilling time: 30-35 days drilling time for a single lateral horizontal Three Forks Formation test.

Unusually deep drilling (high horsepower rig): No, triple drilling rig to drill a vertical pilot hole to 10,263' TD in the Nisku Formation. Plugback and kick off and drill a Three Forks Formation, 19,818'MD/10,049' TVD /single lateral horizontal well test.

Possible H2S gas production: H2S gas production is slight(Mississippian Formations).

In/near Class I air quality area: No Class I air quality area in the area of review.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: No special concerns, adequate surface casing, 1700' to be set and cemented back to surface with proper BOP stack should mitigate any concerns. Triple rig to drill a vertical pilot hole to 10,263' TD in the Nisku Formation. Plugback and kick off and drill a Three Forks Formation, 19,818'MD/10,049' TVD /single lateral horizontal well test. If there are no gas gathering systems in the area, associated sweet gas and H2S gas can be flared under Board Rule 36.22.1220.

Water Quality

(possible concerns)

Salt/oil based mud: Yes, oil based invert drilling fluids to drill vertical pilot hole and intermediate casing string hole and saltwater to drill horizontal lateral. Surface casing hole will be drilled with freshwater and freshwater drilling fluids.

High water table: No high water table anticipated in the area of review.

Surface drainage leads to live water: None anticipated. Closest drainage is an unnamed ephemeral tributary drainage to Sears Creek, about 1/8 of a mile to the southeast from this location.

Water well contamination: No, closest water wells are about 1/8 of a mile to the north, about 3/8 of a mile to the north northwest, about 1/2 of a mile to the west northwest and about 5/8 of a mile to the west northwest from this location. Depth of these stockwater and domestic water wells range from 40' to 155'. Surface hole will be drilled with freshwater. Surface casing will be set and cemented to surface from 1700'.

Porous/permeable soils: No, sandy silty clay soils.

Class I stream drainage: No Class I stream drainage in the area of review.

Mitigation:

☒ Lined reserve pit

☒ Adequate surface casing

- ☐ Berms/dykes, re-routed drainage
☒ Closed mud system
☒ Off-site disposal of solids/liquids (in approved facility)
☐ Other: _____

Comments: 1700' of surface casing cemented to surface is adequate to protect freshwater zones. Also, fresh water mud systems to be used on surface hole.

Soils/Vegetation/Land Use

(possible concerns)

Steam crossings: None anticipated, crossing ephemeral drainages.
 High erosion potential: No, small cut, up to 7.9' and small fill, up to 9.4', required.
 Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.
 Unusually large wellsite: Large, 470'X470' location size required.
 Damage to improvements: Slight, surface use is grasslands.
 Conflict with existing land use/values Slight

Mitigation

- ☐ Avoid improvements (topographic tolerance)
☐ Exception location requested
☒ Stockpile topsoil
☐ Stream Crossing Permit (other agency review)
☒ Reclaim unused part of wellsite if productive
☐ Special construction methods to enhance reclamation
☐ Other _____

Comments: Access will be over existing county road #111 and existing ranch road
Will construct about 1/8 of a mile of new access into location off the existing ranch road.
Drilling fluids will be hauled to a commercial disposal. Oil based invert drilling fluids will be recycled. Solids will be allowed to dry in the lined cuttings pit. When dry the cuttings pit liner will be folded over the top of the solids, spoil dirt to fill pit, top soil spread over pit area, and seeded to land owners specification. No special concerns

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Closest residences are about 5/8 of a mile to the northwest and about 1 mile to the north from this well location.

Possibility of H2S: H2S chance is slight.

Size of rig/length of drilling time: Triple drilling rig 30 to 35 days drilling time.

Mitigation:

- ☒ Proper BOP equipment
☐ Topographic sound barriers
☐ H2S contingency and/or evacuation plan
☐ Special equipment/procedures requirements
☐ Other: _____

Comments: Adequate surface casing and operational BOP should mitigate any problems. No concerns.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified

Proximity to recreation sites: None identified
 Creation of new access to wildlife habitat: None
 Conflict with game range/refuge management: Closest game management area is Fox Lake State Game Management Area, about 15.6 miles to the northwest from this location.
 Threatened or endangered Species: Species identified as threatened by the USFWS are Pallid Sturgeon, Interior Lease Tern, Piping Plover and Whooping Crane. Species listed as candidate species are the Greater Sage Grouse and Sprague's Pipit. NH tracker website for this Township and Range lists zero (0) species of concern.
 Mitigation:
 ___ Avoidance (topographic tolerance/exception)
 ___ Other agency review (DFWP, federal agencies, DSL)
 ___ Screening/fencing of pits, drillsite
 ___ Other: _____
 Comments: Private surface grassland. There maybe species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

Historical/Cultural/Paleontological

(possible concerns)
 Proximity to known sites: None identified.
 Mitigation
 ___ avoidance (topographic tolerance, location exception)
 ___ other agency review (SHPO, DSL, federal agencies)
 ___ Other: _____
 Comments: On private surface grassland. There maybe possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

Social/Economic

(possible concerns)
 ___ Substantial effect on tax base
 ___ Create demand for new governmental services
 ___ Population increase or relocation
 Comments: Wildcat well test. No concerns.

Remarks or Special Concerns for this site

Well will be drilled as a vertical pilot hole to 10,263' TD in the Nisku Formation. Plugback and kick off and drill a Three Forks Formation, 19,818'MD/10,049' TVD /single lateral horizontal well test.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected. Some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): \s\Steven Sasaki
(title:) Chief Field Inspector
Date: March 19, 2012

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website

(Name and Agency)
Richland County water wells
(subject discussed)
March 19, 2012
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES
MONTANA COUNTIES, Richland County
(subject discussed)

March 19, 2012
(date)

Montana Natural Heritage Program Website (FWP)
(Name and Agency)
Heritage State Rank= S1, S2, S3, T21N R57E
(subject discussed)

March 19, 2012
(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____